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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/814,425	03/21/2001	Everett X. Wang	42390.P11004	4061
7590	06/03/2005		EXAMINER	
			MOONEY, MICHAEL P	
			ART UNIT	PAPER NUMBER
			2883	
DATE MAILED: 06/03/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/814,425	WANG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Michael P. Mooney	2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 20 May 2005.

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-4, 7, 16-19 and 22 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) 1-4 and 7 is/are allowed.

6) Claim(s) 16-19 and 22 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date: _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date: _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 16-19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over English translation of Hori et al. (JP 09-080246).**

English translation of Hori et al. (herein referred to as "Hori et al.") teaches a device, comprising: a spacing made of a first cladding material and formed by an etch process to remove portions of the first cladding material from core regions adjacent to the spacing (fig. 3(a); fig.6(a)); a core material filled into the core regions subsequent to removal of portions of the first cladding material from the core regions (fig. 3(b); fig.6(c)), wherein excess core material over the core regions and the spacing is removed (figs. 3(b), 3(c); figs. 6(c), 7(a)); and a layer made of a second cladding material and formed

over the core material and over the first cladding material, including over the spacing. (fig. 4(b); fig. 7(c)) (fig. 4(b)) (See, in general, figs. 2-4, 6-7 and associated text).

As stated above Hori et al. teaches “wherein excess core material over the core regions and the spacing is removed”. Although Hori et al. does not teach “through a chemical-mechanical process”, the instant claim 16 is not patentably distinct with respect to Hori et al. because claim 16 is a **device** claim and the method of forming a device is not germane to the issue of patentability of the device itself. Therefore, the method-of-forming limitation “through a chemical-mechanical process” has not been given patentable weight in device claim 16.

Furthermore, this type of claim is also discussed in the MPEP as follows:

### **2113 Product-by-Process Claims**

#### **PRODUCT-BY-PROCESS CLAIMS ARE NOT LIMITED TO THE MANIPULATIONS OF THE RECITED STEPS, ONLY THE STRUCTURE IMPLIED BY THE STEPS**

“[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted) (Claim was directed to a novolac color developer. The process of making the developer was allowed. The difference between the inventive process and the prior art was the addition of metal oxide and carboxylic acid as separate ingredients instead of adding the more expensive pre-reacted metal carboxylate. The product-by-process claim was rejected because the end product, in both the prior art and the allowed process, ends up containing metal carboxylate. The fact that the metal carboxylate is not directly added, but is instead produced in-situ does not change the end product).

Thus claim 16 is rejected.

Although Hori et al. does not explicitly teach “wherein the first and second cladding materials comprise a similar material having a lower refraction index than the core material”, it would have been obvious to do so because it is notoriously well known (NWK) for the first and second cladding materials to comprise a similar material having a lower refraction index than the core material in such applications. (See, in general, figs. 2-4, 6-7 and associated text). Thus claim 17 is rejected.

Hori et al. teaches wherein upper surfaces of the core material, of the spacing, and of the first material are substantially flush (figs. 4(a)-4(b); figs. 7(a)-7(b)). (See, in general, figs. 2-4 and figs. 5-7). Thus claim 18 is rejected.

Hori et al. teaches wherein the core regions and spacing are patterned using a lithography technique. (fig. 2, fig. 5 and associated text). Thus claim 19 is rejected.

Hori et al. teaches wherein the core regions are filled with the core material using a deposition or re-flow technique. (page 5 paragraph 0015, figure 3(b); fig. 6(c)). Thus claim 22 is rejected.

### ***Allowable Subject Matter***

Method claims 1-4, 7 are allowed.

The prior art, either alone or in combination, does not disclose or render obvious the italicized portion of the following method: forming a cladding material over a substrate; lithographically patterning and etching the cladding material to obtain core regions and a spacing between the core regions that is made of the cladding material; and filling the core regions with a core material; *using a chemical-mechanical process to*

*remove excess core material formed over the core regions and over the cladding material; and forming another cladding material over the core regions and over the spacing in combination with the rest of claim 1.*

Hori et al teaches dry etching, not chemical-mechanical polishing. Hori does not teach or suggest using chemical-mechanical polishing in the fabrication method for this unique device.

It is noted that the claim 1 is allowable because the unique combination of each and every specific element stated in the claim.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Mooney whose telephone number is 571-272-2422. The examiner can normally be reached during weekdays, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

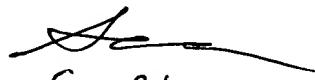
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-

1562.

  
Michael P. Mooney  
Examiner  
Art Unit 2883

Frank G. Font  
Supervisory Patent Examiner  
Art Unit 2883

FGF/mpm  
5/27/05

  
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